IN THE CLAIMS:

Please AMEND the claims as follows:

1. (Currently Amended) An OFDM receiver, comprising:

means for recovering and sampling an rf signal from a transmitter into in- phase (I) and quadrature phase (Q) components of a baseband signal;

means for computing auto correlation amplitude and phase values of the I and Q components at sample points;

means for averaging and saving the auto correlation values of the I and Q components over L symbols for two or more frames before computing the correlation;

phase lock loop means for providing a sample number indicating an OFDM frame boundary using the averaged I and Q auto correlation values **based on** $\overline{R}_i = \sum_{j=1}^{L} R_i(j)$. **where: R_i is the average auto correlation value; L is the latest frame; $R_i(j)$ is the auto correlation value of the j-th frame** and an output signal locked to the transmitter rf signal;

means providing a receiver clock chain output phase locked to the transmitter rf signal;

means providing an offset value indicative of the phase difference between the receiver and a transmitter; and

means for correcting frequency and timing offset between the receiver and the transmitter in the sample number.

11. (Currently Amended) The OFDM receiver of Claim 22 further comprising;

a programmable counter responsive to ~~the~~ a coherent clock signal and a receiver clock for generating a receiver clock chain phase locked to a clock in the transmitter.

12. (Currently Amended) A method of correcting timing and frequency offset in an OFDM receiver, comprising the steps of:

sampling in-phase (I) and quadrature phase (Q) components of a baseband signal;

computing auto-correlation amplitude and phase values of the I and Q components based on $\overline{R}_i = \sum_{j=1}^{L} R_i(j)$. **where: R_i is the average auto correlation value; L is the latest frame; R_i (j) is the auto correlation value of the j-th frame** ;

estimating a frame boundary of the received signal;

providing a sample number indicating a correct frame boundary;

estimating frequency and timing offset in the sample number of the receiver and a transmitter; and

correcting the frequency and timing offset in the sample number.

21. (Currently Amended) In an IBOC system including a filter coupled to a converter, a first storage means coupled to the converter and to a correlator, a second storage means coupled to a frame synchronization estimator and an offset estimator, a phase locked loop coupled to the frame synchronization estimator and to the offset estimator, and an offset correction means coupled to the first storage means, the offset estimator and the phase locked

loop, a method of correcting timing and frequency offset between a transmitter and a receiver in the system, comprising the steps of :

sampling in-phase (I) and quadrature phase (Q) components of a received signal;

computing auto-correlation amplitude and phase values of the I and Q components for two or more frames **based on** $\overline{R_i} = \sum_{j=1}^{L} R_i(j)$. **where: R_i is the average auto correlation value; L is the latest frame; R_i (j) is the auto correlation value of the j-th frame**;

estimating a frame boundary of the received signal;

providing a sample number indicating a correct frame boundary using a phase lock loop;

providing a receiver clock chain output phase locked to ~~the~~ **a** transmitter;

estimating the transmitter and receiver frequency and timing offset in the sample number; and

correcting the frequency and timing offset in the sample number.

22. (Currently Amended) An OFDM receiver, comprising:

means for recovering and sampling an rf signal into in- phase (I) and quadrature phase (Q) components of a baseband signal;

means for computing auto correlation amplitude and phase values of the I and Q components at sample points**based on** $\overline{R_i} = \sum_{j=1}^{L} R_i(j)$. **where: R_i is the average auto correlation value; L is the latest frame; R_i (j) is the auto correlation value of the j-th frame** ;

means for averaging the auto correlation values of the I and Q components over L symbols;

phase lock loop means for providing a sample number indicating an OFDM frame boundary using the averaged I and Q auto correlation values, the phase locked loop comprising:

means responsive to a first and a second frame synchronization signal for providing a difference signal indicative of the frame difference between ~~the~~ **a** transmitter and **the** receiver;

means for averaging differences over a series of frames as a frame difference output;

means for processing the frame difference output through a filter;

means responsive to the filter for integrating and rounding off the frame difference output to the nearest integer value; ~~and~~

counter means responsive to the integer value providing a sample number for a desired frame boundary;

means providing an offset value indicative of the phase difference between the receiver and a transmitter; and

means for correcting frequency and timing offset between the receiver and the transmitter in the sample number.